

Italy's Piedmont Region Improves Emergency Response

To minimize tragedies like the earthquakes in Friuli in 1976 and Iripinia in 1980, that resulted in nearly 4,000 deaths and left more than 450,000 Italians homeless, the Italian Civil Protection National Service was created. Its mission: to

defend life, goods, installations, and the environment from damage caused by natural disasters and calamities. In order to do so more effectively, Civil Protection of the Piedmont Region depends on Cisco® Internetworking solutions.

| EXECUTIVE SUMMARY |
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| <p>CIVIL PROTECTION NATIONAL SERVICE, PIEDMONT REGION</p> <ul style="list-style-type: none"> • Government • Turin, Italy • 25 employees, hundreds of volunteers |
| <p>BUSINESS CHALLENGE</p> <ul style="list-style-type: none"> • Facilitate emergency response in the event of natural disasters • Coordinate the activities of multiple public agencies and volunteer organizations on the ground • Provide mission-critical communications no matter what effect the disaster may have on existing networks |
| <p>NETWORK SOLUTION</p> <ul style="list-style-type: none"> • Cisco iCOMM – Integrated Services Router (ISR)-based Instant Communication Solution |
| <p>BUSINESS RESULTS</p> <ul style="list-style-type: none"> • Reduced response time due to centralized operations control • Effortless communications across multiple technologies • Guaranteed communications for first responders |

Business Challenge

Civil Protection is not a single body, but a public function to which many components of the state system contribute, including municipalities, central government, various levels of public administration (aggregations of municipalities, mountain and hill communities, provinces, and regions) and citizen volunteer agencies. This organization promotes central coordination as well as operational flexibility throughout the country – a successful model that has made the Italian system an invaluable case study and model for emergency response in numerous other countries.

However, the dispersion of resources among multiple agencies makes coordinated mission-critical telecommunications a major challenge. In order to provide optimal support in an emergency, systems must be in

place to enable contact between multiple groups in the field and operating bases. To enable better handling of people and equipment, Civil Protection of the Piedmont Region is equipping emergency units with state-of-the-art communications systems capable of guaranteeing reliability and coverage in all conditions and locations, and of integrating multiple data, voice, and radio communication technologies into a single Internet Protocol (IP)-based platform. Just like companies and organizations of all sizes, and in every other sector, “civil protection” has identified Cisco® Internetworking solutions as the best opportunity to achieve its aims.

“Before this experience, every operator had several communication tools, ranging from UHF, VHF, or Tetra radio to cell phones,” says Valerio Albanese, area manager of Emergency Telecommunications for Civil Protection of the Piedmont Region, “not to mention that the wide variety of equipment active on a mobile operating structure increased the likelihood of breakdowns and service failures.”

Network Solution

Migrating to Cisco Unified Communications allows staff to interact across all telecommunications systems from a single terminal, integrating support, and enabling the system to contact operators, regardless of where they are, what device they have, or the type of connection.

A first step towards convergence was made in April 2008 during an international drill for fire control, Fire 5 in Sardinia. “For that event, we decentralized a part of the control room from the offices in Turin into a 4X4 van sent to the venue,” says Albanese. The 4X4 van housed a complete TetraFlex digital and analog radio telecommunications system, landline and wireless Cisco IP telephone equipment, and the SkyplexNet mobile satellite system of the Piedmont Region Civil Protection and Forest Fire Fighting Department to link the mobile unit with the Control Room in Turin and with the Command and Control Headquarters of the Civil Protection Department in Olbia. “The operation in Sardinia was the field test of the project that we were preparing to develop, the aim being to converge all our traditional communications systems into a single platform,” says Albanese.

The need for unified communications led the Piedmont Region Civil Protection and Forest Fire Fighting Department to choose Cisco solutions. “Cisco is the world leader in the sphere of voice over IP and Information and Communications Technology (ICT) systems in general, another reason to choose a solution which would guarantee convergence in a single platform,” says Albanese. All the analog and digital systems, ranging from TetraFlex radio-telephone digital systems to Cisco IP phones, are now part of a single network architecture which includes Wi-Fi and is scalable to incorporate other technologies in the future.

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Successful testing in Sardinia led to the development of a full-scale project for the construction of a shelter equipped with Cisco technologies. Piedmont Region Civil Protection made the equipped shelter available to the Apulia Region to coordinate forest fire prevention activities in the Gargano area in the summer of 2008, an initiative which was repeated the following year.

Business Results

“In this way we have solved the problem of number portability,” says Albanese. “When it is not possible to get a person on a landline, the system is able to find them using the radio system, because it is linked to the telephone switchboard.” Convergence also allows emergency operations directors to contact the operating units from any telephone, including traditional phones, because they are integrated into an architecture, which makes all the different radio and phone technologies interoperable on IP. “It is a value-added solution, because it allows immediate handling of the emergency from the office, without requiring the local presence of the operations coordinator.”

The system was used once again during the earthquake in the province of L'Aquila. “In this dramatic situation, with a task force of two officials, we decentralized one part of the control room of the Turin offices in a 4X4 van sent to Barisciano, where the Piedmont Region manages one of the biggest camps,” says Albanese. The 4X4 van housed a complete TetraFlex digital radio telecommunications system, and landline and wireless telephone and fax equipment on a Cisco IP and the SkyplexNet mobile satellite system linked to the mobile unit with the Control Room in Turin. “The activity, still under way, enables us to converge all the communications to the control room in Turin,” says Albanese.

Alessandro Fidanza, head of the Piedmont Region's Civil Defense Operations Room also emphasizes the system's modularity, which enables devices to use different interconnection methods, depending on requirements.

| PRODUCT LIST | |
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| Unified Communications | |
| <ul style="list-style-type: none"> • Cisco ISR Based Instant Communication System • Cisco Communication Manager • Cisco Communication Manager Express • Cisco Wireless and Wired IP Phones | |
| Wireless | |
| <ul style="list-style-type: none"> • Wireless LAN Controller Module for ISR • Outdoor Wireless Access Point | |

"It may be that no communication channels are available in the hours immediately after a disaster," says Fidanza. "In this case, use of the SkyplexNet satellite system can guarantee access to a basic set of services. Subsequently, if the phone companies reactivate coverage, the devices can automatically connect via the GSM or landline network, until complete use of all the possible channels is available. This takes place without any change in configuration of the equipment: our user interface is always the same, but we are able to use all the channels available to us."

But that is not the only advancement in the control room. "The technology also enables video communication," says Fidanza. "Thanks to the Cisco solution, we can equip our people with remotely controlled mobile cameras. This gives us a picture of the situation, thanks to the video, without having to use the operator as a cameraman. Using a joystick, we can focus on the subject considered by the control room to be of importance at any particular time."

Albanese goes back to the benefits of ICT convergence specifically to organizations dedicated to emergency and natural disaster response. "Our integration on the IP network is proof of how a multiservice network can offer the solution to all the problems that we find ourselves having to deal with operationally," says Albanese. "Cisco is one of the few brands capable of supplying all the necessary components to create an integrated, convergent, standards-based system, making it easy to intervene should problems arise."

Moreover, Civil Defense is supported by specialized Cisco technicians, available all over the country and ready to respond quickly should anything happen to the equipment in the often inhospitable environments associated with natural disasters. "Being sure of having reliable technical support means intervening more quickly, even in the most extreme situations."

Next Steps

Albanese is part of a national "civil protection" group set up especially to identify and build a single ICT system for use in every region. He anticipates rolling out similar Unified Communications approach across the country to further enhance the already model service provided by Italy's Civil Defense National Service.



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